CIRC ACCESSION NO--AP0050475

UNCLASSIFIED

2/2 010 UNCLASSIFIED

CIRC ACCESSION NO--AP0050475 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF 0.2-0.3PERCENT RARE EARTH METALS REDUCED THE TENDENCY TO FLAKE FORMATION TO 215, WHILE IMPROVING THE DEGREE OF FINENESS OF NONMETALLIC INCLUSIONS.

USSR

UDC 621.372.825.004.14

SOKOLOV, Ye. A., BENDERSKIY, V. A., GOBEDZHITVILI, V. D., and MIKHIN, V. I.

"Use of Flat Radial Spirals in Electron Paramagnetic Resonance Technology"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 8, Aug 71, pp 1432-1436

Abstract: The authors analyze the sensitivity and bandwidth of flat arithmetical and logarithmic spirals used as pickups in electron paramagnetic resonance spectroscopy. It is shown that arithmetical spirals can be used to achieve high SHF magnetic field strength in a thin specimen (approximately 1 oersted/$W^{1/2}$) and that they have a sensitivity comparable to that of a cavity resonator in a passband of 1000 MHz. It is concluded that flat spirals can be successfully used in double electron-electron resonance technology and pulse measurements of spin relaxation in the study of specimens excited by strongly absorbed radiation. The radial spirals can be used as EPR signal pickups for flat specimens with a thickness of the order of 0.1 mm and volumes of less than 8 mm^3 (or 16 mm^3 in the case of bilateral arrangement of the specimen). In the case of ideal matching, the sensitivity of the spiral should be 5-10 times that of a resonator. The considerable bandwidth of a radial spiral makes it useful as an EPR pickup, and the small dimensions are very convenient for measurements at very low temperatures. In conclusion, the authors thank V. P. Sazonov for discussion and constructive criticism.

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1/2 040 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ELECTRON ELECTRON DOUBLE RESONANCE OF TRIPLET EXCITONS. II. SPIN EXCHANGE OF TRIPLET EXCITONS WITH PARAMAGNETIC IMPURITY CENTERS -U-
AUTHOR-(03)-STUNZHAS, P.A., BENDERSKIY, V.A., SOKOLOV, YE.A.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(3), 487-91

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCITON, ELECTRON RESONANCE, ORGANIC CRYSTAL, CRYSTAL IMPURITY, ELECTRON SPIN, IMPURITY CENTER, EPR SPECTRUM, PHYSICAL DIFFUSION, ACTIVATION ENERGY, TEMPERATURE DEPENDENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1432 STEP NO--UR/0051/70/028/003/0487/0491

CIRC ACCESSION NO--AP0118421

UNCLASSIFIED

2/2 040 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118421

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON DOUBLE RESONANCE SPECTRA OF TRIPLET EXCITONS (PRIME3 T) AND PARAMAGNETIC IMPURITY CENTERS (PRIME2 II) WERE STUDIED IN THE CRYSTALS OF COMPLEX SALT OF TETRACYANOQUINODIMETHAN WITH METHYLTRIPHENYLPHOSPHONIUM. CONCN. OF PARAMAGNETIC IMPURITIES WAS 0.1-0.2PERCENT. ELECTRON DOUBLE RESONANCE WAS CAUSED BY SPIN EXCHANGE PROCESSES: PRIME3 TO SUB0 PLUS PRIME3 T SUBPOSITIVE1 PLUS PRIME3 T SUBNEGATIVE1 (1) AND PRIME3 T SUBJ PLUS PRIME2 II SUBNEGATIVEONEHALF EQUALS PRIME3 T SUBJMINUS1 PLUS PRIME2 II SUBONEHALF; J EQUALS 0, 1 (2). THE RATE CONST. OF PROCESS (2) DOES NOT DEPEND ON THE TEMP. IN THE RANGE 115-80DEGREESK AND CORRESPONDS TO THE PROCESS LIMITED BY DIFFUSION (GAMMA T II EQUALS 8 TIMES 10 PRIME NEGATIVE13 CM PRIME3-SEC). THE TEMP. DEPENDENT RATE CONST. FOR PROCESS (1), WITH ACTIVATION ENERGY 0.06 EV, COINCIDES WITH THAT FOUND FROM THE BROADENING OF EPR LINES. AT 155DEGREESK GAMMA TT EQUALS 2 TIMES 10 PRIME NEGATIVE12 CM PRIME3-SEC. FROM THE DIFFERENCE IN THE TEMP. DEPENDENCE OF GAMMA T II AND GAMMA TT THE CONCLUSION WAS DRAWN THAT EXCITON MOTIONS ARE ACTIVATIONLESS BUT THEIR SPIN EXCHANGE REQUIRES ACTIVATION ENERGY.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ELECTRON ELECTRON DOUBLE RESONANCE OF TRIPLET EXCITONS. I. SPIN EXCHANGE OF TRIPLET EXCITONS IN ION RADICAL SALTS -U-

AUTHOR-(04)-STUNZHAS, P.A., BENDERSKIY, V.A., BLYUMENFELD, L.A., SOKOLOV, YE.A.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(2), 278-83

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON RESONANCE, EXCITON, ION RADICAL, ORGANIC CRYSTAL, ORGANIC SACT, ELECTRON SPIN, TEMPERATURE DEPENDENCE, SPECTRAL LINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0371 STEP NO--UR/0051/70/028/002/0278/0283

CIRC ACCESSION NO--AP0055156

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0055156

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES IN THE INTENSITY OF THE ZEEMAN 0 YIELDS 1 TRANSITION OF TRIPLET EXCITONS DURING SATN. OF MINUS 1 YIELDS 0 TRANSITION IN CRYST. ION RADICAL SALTS OF TETRACYANOQUINOMETHANE WERE STUDIED. AT LOW TEMPS., AN INCREASE OF INTENSITY OF 0 YIELDS 1 TRANSITION CAUSED BY AN INCREASE OF POPULATION OF S SUBZ EQUALS 0 LEVEL WAS OBSD. IF THE MINUS 1 YIELDS 0 TRANSITION WAS SATD. AS THE TEMP. WAS INCREASED, THE EXCITON CONCN. INCREASED AND THE PROCESS OF SPIN EXCHANGE PRIME3 T SUB0 PLUS PRIME3 T SUB0 EQUALS PRIME3 T SUB NEGATIVE1 PLUS PRIME3 T SUB POSITIVE1 CAUSED A DECREASE OF INTENSITY OF THE 0 YIELDS 1 TRANSITION. EQUATIONS WERE DERIVED FOR THE ESTN. OF FREQUENCES OF SPIN EXCHANGE FROM THE ELECTRON ELECTRON RESONANCE DATA. THEIR TEMP. DEPENDENCE AGREED WELL WITH THAT DETD. FROM EXCHANGE BROADENING. THE EFFECT OF ELECTRON ELECTRON DOUBLE RESONANCE IN THE RESION OF WEAK, BETWEEN LINE ABSORPTION WAS DISCOVERED.

UNCLASSIFIED

USSR

UDC 542.65:669.721:669.6

MOROKHOVETS, M. A., SOKOLOV, Ye. B., and SUTOCHNIKOVA, G. A., Moscow Institute of Fine Chemical Technology, Chair of Semiconductor Materials Technology

"Characteristics of Magnesium Behavior in Tin Crystallization"

Ordzhonikidze, Tsvetnaya Metallurgiya, Vol 14, No 3, 1971, pp 50-53

Abstract: A study was made of the distribution of magnesium on the ingot after directional crystallization and of solid solutions of Sn containing Mg the initial materials were OVCh-000 tin containing 99.995% of the basic substance and magnesium obtained by chemical purification of MG-1 magnesium and containing not more than 0.001% impurities. The investigation results are discussed by reference to curves showing the dependences of Mg concentration on the crystallized part of the specimen (crystallization rate 0.15 mm/min) and the part of wt. of the ingot for two crystals (crystallization rate 0.045 mm/min). Except their first part, the curves show an impurity distribution by directional crystallization which is characteristic for a distribution coefficient $K < 1$ of Mg in Sn. The actual distribution coefficient of Mg was found to be of the order of 0.03-0.04. Three illustr., four biblio. refs.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--STRUCTURAL CHEMICAL TRANSFORMATIONS IN MELTS OF PERITECTIC TYPE SYSTEMS -U-

AUTHOR-(03)-SOKOLOV, YE.B., GLAZOV, V.M., PROKOFYEVA, V.K.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 580-1

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GERMANIUM ALLOY, BARIUM ALLOY, ALLOY PHASE TRANSFORMATION, INTERMETALLIC COMPOUND, THERMAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0949 STEP NO--UR/0363/70/006/003/0580/0581

CIRC ACCESSION NO--AP0118115

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118115

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE EQUIL. IN THE GE-BA SYSTEM TO 50 ATOM PERCENT BA ARE DESCRIBED. DTA CURVES SHOW THE PRESENCE OF HEAT EFFECTS AT TEMPS. CORRESPONDING TO THE TEMPS. OF PERITECTIC TRANSFORMATIONS IN THE LIQ. REGION, I.E., IN THE REGION WHERE ACCORDING TO THE PHASE DIAGRAM THERE SHOULD BE NO TRANSFORMATIONS PRESENT. THE PHASE TRANSFORMATIONS, EXTEND INTO THE LIQ. PLUS GE REGION. THE POSSIBILITY IS SUGGESTED OF STRUCTURAL CHEM. TRANSFORMATIONS IN THE LIQ. PHASE WITH THE FORMATION OF MOL. COMPLEXES OF THE BAGE SUB4 AND BAGE SUB2 TYPES. THESE REACTIONS SHOULD AFFECT THE STRUCTURE SENSITIVE PROPERTIES SUCH AS VISCOSITY AND ELEC. COND. THESE SUGGESTIONS WERE EXPTL. CONFIRMED DURING COOLING OF GE ALLOY CONTG. 16 ATOM PERCENT BA. APPARENTLY THESE TRANSFORMATIONS IN THE GE-BA SYSTEM ARE CHARACTERISTIC NOT ONLY FOR SYSTEMS WITH SUCH CLEARLY DEFINED PERITECTIC COMPDS. OF A CONST. COMPN. AS BAGE SUB2 AND BAGE SUB4, BUT ALSO GENERALLY FOR SYSTEMS WITH VARIABLE COMPN. PERITECTIC PHASES. IN THE LATTER CASE THERE MAY BE CHANGES IN THE SHORT RANGE ORDER STRUCTURE WITH FORMATION OF MICROGROUPS APPROACHING THE COMPN. OF THE PHASE FORMING AS A RESULT OF PERITECTIC TRANSFORMATION. FACILITY: MOSK. INST. ELEKTRON. TEKH., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.315.592:546.19'681

SOKOLOV, YE.B., BOL'SHEVA, YU.N., LOGINOVA, L.V., MIL'VIDSKIY, M.G.

"Behavior Of Copper During Melting Of Gallium Arsenide To A Flux"

Sb.nauch.tr. po probl. mikroelektron. Mosk. in-t elektron.tekhn. (Collection Of Scientific Works On Problems Of Microelectronics. Moscow Institute Of Electronics Technology), 1972, Issue 8, pp 109-112 (from RZh:Elektronika i yeye primeniye, No 9, Sept 1972, Abstract No 9B106)

Translation: The behavior is considered of one of the most studied impurities--copper at the boundary of melts of gallium arsenide--boric anhydride. It is assumed that with equilibrium of these two melts it is possible for extraction of the impurities in the flux to take place. It is shown that with high concentrations of copper (and copper oxide) in the melt, it is possible to disregard extraction of boric anhydride in the melt. 4 ref. Summary.

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USSR

NEUSTROYEV, S. A., and SOKOLOV, Ye. B., Moscow Institute of Electronic Engineering

UDC 541.14

"Mechanism for the Action of an Electron Beam on Organic Photoresists"

Moscow, Uspekhi Khimii, Vol 41, No 9, Sep 72, pp 1713-1734

Abstract: The article considers phenomena which affect the possibility of obtaining a given line width for a photoresist, including conversions that take place on the exposure of the photoresist to light, the occurrence of chemical reactions during electron bombardment and the interaction of an electron beam with photoresist and substrate. The conversion of a positive photoresist (naphthoquinone diazide) during luminous irradiation follows two competing reaction schemes: a) decomposition of the light-sensitive component and conversion of the resist into a water-soluble compound; b) deacylation of the resist with ketenes with the subsequent appearance of insoluble compounds, observed during heating of the resist. The reaction products after electron irradiation have the same composition as after luminous irradiation. The electrons passing through the photoresist layer lose a great deal of energy. The high characteristic energy loss values for the electrons passing through organic compounds indicate electronic excitation

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NEUSTROYEV, S. A., and SOKOLOV, Ye. B., Uspekhi Khimii, Vol 41, No 9, Sep 72, pp 1713-1734

of molecules. Secondary electron emission for a solid is characterized by the presence of two groups of electrons: a) slow electrons with energies of a few electron volts and b) electrons with energies over 60 ev. The gist of the mechanism for the internal irradiation of a resist is the fact that electrons, passing through the resist, excite molecules of the resist with subsequent fluorescence and phosphorescence.

There is a detailed discussion of the conditions for the irradiation of a photoresist with an electron stream, the effect of the substrate material (metal, dielectric) on the width of the resultant line and edge definition, and the question of what kind of composition a photoresist should have to satisfy the requirements for the further miniaturization of electronic devices. The phenomenon of internal irradiation is also observed in negative resists. Irradiation is accompanied by cross-linking, which proceeds by a free-radical polymerization mechanism.

The use of an electron beam in industry depends on the solution of the following questions:

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NEUSTROYEV, S. A., and SOKOLOV, Ye. B., Uspekhi Khimii, Vol 41, No 9, Sep 72, PP 1713-1734

1) The role of the substrate material, which affects the process of the exposure and formation of the resist film, including the action of secondary electron emission.

2) The part played by radicals and ions forming as a result of electron bombardment in chemical reactions in photoresists.

3) Reduction in energy consumption for resist exposure.

4) The search for resists which are more sensitive to electron irradiation and, in addition, do not have the capacity for internal irradiation.

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1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF HIGH DOSES OF PROGESTERONE ON URINARY EXCRETION OF GONADOTROPIN AND SEX HORMONES IN PATIENTS OF REPRODUCTIVE AGE WITH

AUTHOR-(03)-SAVCHENKO, O.N., SOKOLOV, YE.G., KHRUSTALEVA, G.F.

COUNTRY OF INFO--USSR

SOURCE--PROBL. ENDOKRINOL. 1970, 16(2), 49-52

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GYNECOLOGY, HEMORRHAGE, PROGESTERONE, URINE, GONADOTROPIN, EXCRETION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0257 STEP NO--UR/0502/70/016/002/0049/0052

CIRC ACCESSION NO--AP0117509

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117509

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROGESTERONE ADMINISTERED I.M. AT 25 MG DAILY FOR 3 DAYS TO REPRODUCTIVE AGE PATIENTS WITH DYSFUNCTIONAL UTERINE HEMORRHAGE SHARPLY DECREASED SECRETION OF ESTROGENS. LH EXCRETION DECREASED ONLY IN THOSE WITH HIGH INITIAL LEVELS. FSH SECRETION INSIGNIFICANTLY INCREASED, AND THE RATIO OF FSH TO LH INCREASED IN PROGESTERONE TREATED PATIENTS. FACILITY: LAB. VOZRAST. FIZIOL. PATOL. ENDOKRIN, SISTEMY CHELOVEKA, INST. FIZIOL. IM. PAVLOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 539.3:534.1

KUZ'MICH, A. N., PUZIKOV, A. A. and SOKOLOV, YE. N.

"Some Questions of the Damping of Laminated Plates"

Kiev, Rasseyaniye energii pri kolebaniyakh mekh. sistem (The Dissipation of Energy During Oscillations of Mechanical Systems, Collection of Works), Nauk. dumka, 1972, pp 222-230 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V332 by E. I. Sokolov)

Translation: Some results of theoretical and experimental investigations of the bending oscillation of thin plates, the material of which possesses hereditary characteristics, are presented. In order to describe these characteristics the use of the Boltzman-Volterra theory of heredity is proposed

$$\sigma(t)=E[\varepsilon(t)-\int_0^t R(t-s)\,\varepsilon(s)ds \qquad (1)$$

where $\sigma(t)$ is the stress; $\varepsilon(t)$ is the linear deformation; E is the instantaneous module of elasticity; $R(t-s)$ is the center of relaxation, for the calculation of which a theoretical-experimental method was worked out, the substance of which is presented below.

If for deducing an equation, describing the transverse oscillation of a plate, relationship (1) is used, and the equation obtained is solved by the

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KUZ'MICH, A. N., Rasseyaniye energii pri kolebaniyakh mekh. sistem, 1972, pp 222-230

method of separation of variables $w(x,y,t)=W(x,y)\,\phi(t)$, in which $w(x,y,t)$ is the sag of the plate, then we obtain two equations, one of the plate oscillation and the other the function $\phi(t)$

$$\phi(t)+w^2\phi(t)-w^2\int_0^t \phi\, s[\phi(s)+\phi(s)]\,R(t-s)ds=0 \qquad (2)$$

here w is the characteristic frequency of an ideally elastic plate. Inasmuch as obtaining the form of the function $\phi(t)$ in experimental investigations is sufficiently simple (its graph is a vibrogram of oscillation of points of the normalized plate), so from (2) it is possible by well known methods to find the form of the function R(t-s). Equations of type (2) are obtained for homogeneous and three-layer plates with a filler under shear stress, and external layers under shear and tensile stress. The further content of the work concerns only experimental results on the determination of the function $\phi(t)$ for partial cases with certain conclusions on the vibration-absorbing properties of the investigated constructions of plates and their materials. (14 bibliographic entries)

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USSR

UDC 539.4:536.453

BERSENEVA, F. N., SURKOV, YU. P., SOKOLOV, YE. N.

"Investigation of the Thermal Stability of the Structural State of EI-437B Alloy Subjected to High-Speed and Slow Plastic Deformation Under High-Temperature Mechanical Working"

V sb. Vysokoskorostn. deformatsiya (High Speed Deformation -- Collection of Works), Moscow, "Nauka", 1971, pp 115-118 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1532)

Translation: Ingots of the alloy EI-437B were subjected to deformation under 10% deposition at 1080° at rates of 10.1 and 0.001 sec^{-1}. The structures of the samples in the initial state and also after heating at 1080° were studied by metallographic and rentgenographic means. It was shown that the structure obtained as a result of high-speed deformation is considerably different from the structure formed during slow deformation. Differences in the structure imparted by preliminary deformation are held persistently and disappear only upon the completion of recrystallization. Authors abstract.

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USSR

UDC 612.833.81+612.273.2

SOKOLOV, Ye. N., and STEKLOVA, R. P., Moscow State University imeni M. V. Lomonosov and All Union Scientific Research Institute of Physical Culture

"Conditioned Reflex to Time and Its Behavior During Hypoxia"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, Vol 20, No 6, 1970, pp 1,123-1,130

Abstract: The purpose of the study was to compare motor conditioned reflexes and EEG reactions in human subjects subjected to acute hypoxia (in a pressure chamber). The subjects were required to make a fist in response to each change in the frequency of light flashes in order to determine the accuracy of discrimination of the intervals between the flashes at different stages of hypoxia. With increasing simulated altitude in the pressure chamber, brain bioelectrical activity changed markedly. The amplitude of the alpha-waves increased but the dominating frequency decreased. The number of theta and delta oscillations increased, especially in the anterior portions of the brain at 5,000 to 6,000 m. The dominance of the theta and delta waves in the frontal and parietal regions coincided with a decrease in the accuracy with which the intervals between light flashes were discriminated. The recruiting response also deteriorated. However, the movements involved in

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SOKOLOV, Ye. N., and STEKLOVA, R. P., Zhurnal Vysshey Nervnoy Deyatel'nosti Vol 20, No 6, 1970, pp 1,123-1,130

simple tracking of the signal were not significantly affected. The development of the slow rhythms in hypoxia is thought to result from a block of the corticopetal influences of the activating reticular formation.

USSR

SOKOLOV, YE. N., and VINOGRADOVA, O. S., (Editors)

Neyronnyye Mekhanizmy Oriyentirovochnogo Refleksa (Neuronal Mechanisms of the Orientation Reflex), Moscow, Moscow University Publishing House, 1970, 432 pp

Translation: Introduction: Polygraphic recording of somatic, vegatative, and electroencephalographic reactions of animals and man made it possible by by means of repeated stimuli of different modes and intensities to differentiate between adaptation, defense, and orientation reflexes. The adaptation reflex, which in part is a protective reflex, is characterized by a relatively high threshold, specific type of reaction local reflexogenic zone, different direction of changes when engaging and disengaging the stimulus, and high stability when stimulation is repeated. The defense reflex as the protective reflex of the entire organism differs from the adaptation reflex by its wide generalized reaction, a higher threshold, and a capacity to be induced by stimuli of different modality.. The orientation reflex is characterized by a low threshold of formation, wide generalization of stimulation, an absence of a specific reflexogenic zone, monotype reactions in engaging and disengaging the stimulus, and also the development of extinction which is selective with relation to the parameters of the repeatedly applied stimulus.

In order to explain the extinction signal specific with relation to the parameters of the orientation reflex the concept of a "nervous model of the stimulus" -- the path of fixation of the properties of the applied stimulus

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SO KOLOV, YE. B., and VINOGRADOVA, O. S., Neyronnyye Mekhanizmy Oriyentirovochnogo Refleksa, Moscow, Moscow University Publishing House, 1970, 432 pp

was introduced. The orientation reaction is regarded as being the result of the formation of a signal of disagreement induced by the disagreement between the external signal and the nervous model of the stimulus. Within certain bounds, the greater the difference between the afore mentioned nervous model of the stimulus and the parameters of the tangible active stimulus, the stronger the orientation reaction (Ye. N. Sokolov, 1960).

If the repeating signal is characterized by a number of stable properties such as color, intensity, and spatial localization, then the nervous model of the stimulus fixes all of the parameters simultaneously. The intensity of the orientation reaction increases in proportion to the simultaneously modified parameters of the signal.

Not only elementary but also complex criteria of the signal, such as coincidence or the sucession of several stimuli in time, are imprinted in the nervous model of the stimulus. This is proven by the development to differentiate between the extinction signal selective with relation to the parameters of the reactions not directely linked with changes in the functional state, and that in an overall change of the functional state which can disturb selective extinction attained in an active state.

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SOKOLOV, YE. S., and VINOGRADOVA, Neyronnyye Mekhanismy Oriyentirovochonogo Refeksa, Moscow, Moscow University Publishing House, 1970, 432 pp

Particular attention was given to processes linked with the changes int he functional condition of the cerebral cortex and nonspecific thalamus.

Data obtained by a group of researchers working under the guidance of the author at the Chair of Neuropsychology of the Psychology Faculty, Moscow State University, are collated in this work.

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USSR

SOKOLOV, YE. S., and VINOGRADOVA, Neyronnyye Mekhanizmy Oriyentirovochnogo Refleksa, Moscow, Moscow University Publishing House, 1970, 432 pp

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USSR

SOKOLOV, YE. S., and VINOGRADOVA, Neyronnyye Mekhanizmy Oriyentirovochnogo Refleksa, Moscow, Moscow University Publishing House, 1970, 432 pp

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USSR

SOKOLOV, YE. S., and VINOGRADOVA, Neyronnyye Mekhanizmy Oriyentirovochnogo Refleksa, Moscow., Moscow University Publishing House, 1970, 432 pp

USSR

UDC 612.833.81 + 612.822.3

SOKOLOV, Ye. N., Editor

Neyronnyye Mekhanizmy Obucheniya (Sovremmenoye Sostoyaniye Voprosa) (Neuron Teaching Mechanisms [Current State of the Art]), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1970, 102 pp.

Translation: Foreword: One of the most important tasks in the field of physiology of higher nervous activity is study of the mechanisms of conditioned reflexes at the level of the individual neuron. The rapid rise in the number of works using various kinds of technology including computers calls attention to the development of this area of science. One of the ways activate research in this area is to organize symposia which include general reports and brief reports on the results of actual work. This collection includes results of work of the "Neuron Teaching Mechanisms" symposium held in May 1969 with the participation of the Chair of Physiology of Higher Nervous Activity and the Chair of Neuropsychology and Psychophysiology of Moscow State University. In the preparation of the general reports, extensive use was made of the work of the Moscow University Chair of Scientific Information, which publishes the information bulletin "Analyzing and Modeling the Functional Activity of the Brain in the Process of Forming a Temporary Link." Participants in the symposium included researchers working in the

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120001-0"

USSR

SOKOLOV, Ye. N., Neyronnyye Mekhanizmy Obucheniya (Sovremmenoye Sostoyaniye Voprosa), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1970, 102 pp

area of experimental study of neuron mechanisms of higher nervous activity.

In using the term "teaching" in relation to neuron mechanisms of conditioned reflexes, we wished to emphasize that research in this area is directly linked to neuropsychology and experimental pedagogy, which concern themselves with controlling the process of acquiring knowledge. Three main directions may be singled out in this are.

1. Conditioned reflex adaptation mechanisms. This area deals with clarification of the possibilities of regulating unconditioned reflexes. An example of such research could be study of restructuring neuron responses of glucoreceptors of the hypothalamus.

2. The conditioned reflex as an association. This problem is related to a particular form of conditioned reflexes, which are formed by combining so-called indifferent stimili. The combination sound-light and formation of a temporary reflex represents an area of special interest for neuropsychology and pedagogy.

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USSR

SOKOLOV, Ye. N., Neyronnyye Mekhanizmy Obucheniya (Sovremmenoye Sostoyaniye Voprosa), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1970, 102 pp

3. Negative learning. Regulating behavior by developing the habits of not reacting to stimuli which do not have substantial significance; extinguishing the reaction to so-called indifferent stimuli is an example of this.

The second part of the collection includes brief reports which present new approaches to the problem of studying the mechanisms of formation of memory traces and links between neurons.

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SOKOLOV, Ye. N., Neyronnyye Mekhanizmy Obucheniya (Sovremmenoye Sostoyaniye Voprosa), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1970, 102 pp

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USSR

SOKOLOV, Ye. N., Neyronnyye Mekhanizmy Obucheniya (Sovremmenoye Sostoyaniye Voprosa), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1970, 102 pp

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USSR

SOKOLOV, Ye. N., Neyronnyye Mekhanizmy Obucheniya (Sovremmenoye Sostoyaniye Voprosa), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1970, 102 pp

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USSR

SOKOLOV, Ye. N., Neyronnyye Mekhanizmy Obucheniya (Sovremmenoye Sostoyaniya Voprosa), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1970, 102 pp

USSR

UDC 624.131.43+539.21.084-492.3

DERGILEV, M. A., SOKOLOV, YU. A.

"Evaluating the Consolidation of Clay Rock Under Hydraulic Dump Formation"

V sb. Vopr. marksheyder. dela na otkrytykh razrab. Ch. 1 (Problems of Surveying in Open Workings. Part 1 -- Collection of Works), Belgorod, 1971, pp 93-97 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V856)

Translation: The authors use a finite difference method to solve the one-dimensional problem of filtration consolidation of layers of clay soil under hydraulic dump formation. An analytical calculation of the pore pressure is made by the V. A. Florin method. The distribution of pore pressure in the clay layer is determined by dividing the calculated thickness of the layer l into n equal segments for equal time intervals Δt. The use of a series of dimensionless quantities makes it possible to reduce the number of independent variables and obtain a general solution for a limited number of particular solutions. A program was developed for the calculation on the "Mir" computer for the values of the coefficients of the pore pressure w for different time intervals Δt. Knowing the values of the coefficient of pore pressure w, one can construct a diagram of the

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USSR

DERGILEV, M. A., SOKOLOV, YU. A., Vopr. marksheyder. dela na otkrytykh razrab. Ch. 1, Belgorod, 1971, pp 93-97

distribution of pore pressure at a given time from any load that changes linearly with time. A program of calculations was developed on the "Mir" computer for the case of a change in conditions of hydraulic dump formation and nomograms of the pore pressure were constructed for a large series of values of Δt. The value of Δt is determined on the basis of given values of l and the coefficient of consolidation C and the necessary nomogram is selected for this value, where the annual distribution of pore pressure under the application of a single normal load is represented. The programs compiled are recommended for use in designing hydraulic dumps of various stripping soils for purposes of predicting the nature of the distribution of pore pressure with time. Yu. P. Lyapichev.

2/2

USSR UDC 621.039.623

ALEKSIN, V. F., BIRYUKOV, O. V., GEORGIYEVSKIY, A. V., KITAYEVSKIY, L. KH., KOMAR, YE. G., LUGINOV, A. S., MALYSHEV, I. F., MONOSZON, N. A., POPKOVICH, A. V., ROZHDESTVENSKIY, B. V., SAKSAGANSKIY, G. L., SINEL'NIKOV, the late K. D., SOKOLOV, YU. A., SUPRUNENKO, V. A., TOLOK, V. T., CHURAKOV, G. F., and SHABEL'NIKOV, L. A.

"The Experimental Thermonuclear Device 'Uragan'"

Moscow, Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

Abstract: An urgent task of stellarator research is a definitive elucidation of the reasons for anomalous diffusion in a stellarator, as well as the effect of the shear and magnetic well on the confinement of a hot and dense plasma. These questions will be studied on the "Uragan" stellarator. Construction of the "Uragan" stellarator was begun at the suggestion of I. V. KURCHATOV and completed in 1967. The physical substantiation and technical assignment of developing and constructing the complex were developed at the Physicotechnical

USSR

ALEKSIN, V. F., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

Institute of the Academy of Sciences Ukrainian SSR under the direction of K. D. SINEL'NIKOV, who took an active part in the solution of theoretical and technical questions. Organizations taking part in the development of the project and the construction of the complex included the Scientific Research Institute of Electrophysical Equipment imeni D. V. Yefremov, the Elektrosila Electrical Engineering Combine, the Khar'kov Polytechnic Institute imeni V. I. Lenin, the Electromechanical Plant and NIIElektroapparat [Scientific Research Institute of Electrical Equipment] in Khar'kov. A considerable amount of work on the development, manufacture, and adjustment of the systems and components of the "Uragan" was done at the Physicotechnical Institute of the Academy of Sciences Ukrainian SSR.

The principal feature of the "Uragan" is high shear (of the order of 0.02 and 0.1) at a high level of magnetic field strength

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ALEKSIN, V. F., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

H_o (35 and 10 koe respectively). The stellarator is in the shape of a racetrack and uses a high-shear triplex helical field. The vacuum chamber of the trap consists of two semi-tori with an average radius R = 1100 mm and two rectilinear sectors, each 1725 mm long. The internal diameter of the chamber is 200 mm. On the outside of the chamber on the toroidal sectors are two helical windings and longitudinal magnetic field coils, distributed evenly along the device. The maximum strength of the magnetic field is 10 koe under steady-state conditions and 35 koe under pulsed conditions. Three windings are used; viz., longitudinal magnetic field, helical, and transverse magnetic field. All metallic elements are made of low-magnet steel 1Kh18N9T. The toroidal sectors of the vacuum chamber and part of the rectilinear sectors are made of stainless nonmagnetic alloy EP-125. The article gives a detailed description of the windings, cooling system, electric power supply system, vacuum system, and plasma diagnostic and heating system.

3/3

USSR

UDC 621.396.677.4

SOKOLOV, Yu. N.

"Calculation of Inlet Resistance of Vibrator With Dielectric Coating by Induced E.M.I. Method"

Moscow, Antenny, No 13, 1971, pp 43-48

Abstract: The emission of a cylindrical vibrator provided with a dielectric coating is investigated. The electrostatic field in the dielectric coating is analyzed.

It is assumed that the current distribution is sinusoidal. The analysis is based on the fact that the vibrator field can be represented by the superposition of the fields from three point sources, located on the edges and in the center of the vibrator.

The emission resistance of this vibrator is given by equation (23), it consists of two terms. The first of these terms can usually be ignored.

1/1

USSR

UDC: 621.397.001

SUSLONOV, S. A., DUKHANIN, N. G. and SOKOLOV, Yu. P.

"Improving the Noise Immunity of Television Systems Through Phase-Amplitude Preemphasis"

Kiev, Izvestiya VUZ--Radioelektronika, Vol. 13, No. 10, pp 1240-1249

Abstract: Noting that by phase-amplitude preemphasis is meant a combination of amplitude-frequency and phase-frequency preemphasis, the author explains the process as increasing the amplitude of the signal frequency range at the transmitting end, where the spectral power density of the external noise is a maximum. To reduce the resulting overshoots, phase preemphasis is used. The process is reversed at the receiving end. The method used by the authors to carry out their analysis is to set up relationships between the frequency and time characteristics of the systems and to set up other relationships between the spectra and the time form of the complex signals. Thus, a linear reversible deformation of the time characteristics and the signal can be had by changing their amplitude and phase spectra at the transmitting end and returning to the original spectra at the receiving end. The time characteristics and signals can then be synthesized in accordance with specified criteria. Details of experimental work are also given.

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1/2 041 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--THERMODYNAMIC PROBLEMS INVOLVED IN OPTIMIZING THE COMPOSITION OF SOME COMPLEX ALLOY STEELS FOR CAST AND WELDED PARTS -U-

AUTHOR--ZHUKOV, A.A., SOKOLOV, YU.S.

S

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. OBRAB. MATER. 1970, (1) 119-24

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--THERMODYNAMIC ANALYSIS, ALLOY STEEL, LOW TEMPERATURE METAL, SILICON CONTAINING ALLOY, MANGANESE CONTAINING ALLOY, NICKEL CONTAINING ALLOY, CHROMIUM CONTAINING ALLOY, GRAPHITIZATION, ARCTIC CLIMATE, ARCTIC VEHICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0631 STEP NO--UR/0472/70/000/001/0119/0124

CIRC ACCESSION NO--AP0105610

UNCLASSIFIED

2/2 041 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105610

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS WORK IS BASED ON THE SIMPLE THERMODYNAMIC ANAL. OF THE WELL KNOWN PRACTICE OF USING AN OPTIMAL COMBINATION OF ELEMENTS WHICH HAS A DIAMETRICALLY OPPOSITE EFFECT ON SOME CHARACTERISTIC OF THE METAL (E.G. THE EFFECT OF SI AND MN OR NI AND CR ON GRAPHITIZATION KINETICS OF CAST IRON) (ZH. ET AL., 1967). THE THERMODYNAMIC ANAL. OF STEEL ALLOYING WITH MN AND CR (WHICH LOWER THE ACTIVITY OF C AND FORM DENDRITIC MICROSEGREGATIONS) IN COMBINATION WITH THE ALLOYING WITH SI AND NI, (WHICH ALSO FORM THE DENDRITIC MICROSEGREGATIONS BUT INCREASE THE ACTIVITY OF C) IS CARRIED OUT. REF. IS MADE TO THE APPLICATION OF THIS ANAL. TO THE FORMULATION OF COLD RESISTANT STEELS FOR ARCTIC CONDITIONS. A NOMOGRAM IS PRESENTED WHICH ENABLES ONE TO CHOOSE HOMOLOGOUS CONCN. OF ELEMENTS IN EXCHANGING ONE ELEMENT OF THE SAME TYPE FOR ANOTHER.

UNCLASSIFIED

USSR

UDC 669.017.3:548.735.6

TOFPENETS, R. L., MALASHENKO, L. M., and SOKOLOV, YU. V., Physico-Technical Institute, Academy of Sciences BSSR

"Grain Formation During Rolling of the D16 Alloy"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 4, 1973, pp 22-24

Abstract: This article contains the results of a grain analysis of the D16 alloy deformed by rolling at room temperature (ε = 75%) in the quenched, aged (t_{age} = 150° C, τ = 10 hours) and annealed states. Pole figures {111} and {200} are constructed.

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USSR

TOFPENETS, R. L., Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 4, 1973, pp 22-24

Aging the alloy in conditions which ensure a zone stage of decay does not change the character of the deformation orientation. Comparison of the intensities of the major orientations (112) [1$\bar{1}$1], and (110) [1$\bar{1}$2] shows a slow-down in transverse glide in the aged alloy in comparison with pure aluminum and the annealed alloy. Slow-down in the transverse glide is manifested by change in the energy of packing defects in the alloy containing disperse zones G-P.

Pole figures {111} and {200} are illustrated for the D16 alloy deformed by 75% after quenching at 500° C, after quenching and aging at 150° C for 10 hours, and after slow cooling from the quenching temperature.

The article contains 1 illustration and 8 bibliographic references.

2/2

USSR

UDC 621.165-154-155.018.001.5

SOKOLOV, YU. V.

"An Investigation of Double-Flow Radial-Axial Stages"

Moscow, Tr. Mosk. energ. in-ta (Transactions of the Moscow Energetics Institute) Vyp 104, 1972, pp 106-107 (from Referativnyy Zhurnal -- Turbostroyeniye, No 7, 1972, abstract No 7.49.28)

Translation: Experiments on radial-axial stages showed that the dependence of their efficiency on the pressure ratio is the same as that for axial stages. The optimum value of stage efficiency is reached at velocity U/S_{sr} = 0.34-0.35. The dependence of the disc pressure drop on the displacement of the turbine rotor relative to the nozzle of the apparatus was investigated (3 illustrations)

1/1

USSR

UDC [537.226+537.311.33]:[537+535]

VAVILOV, V. S., PLOTNIKOV, A. F., SOKOLOVA, A. A., and SHUBIN, V. E.

"Electron Injection From Semiconductor and Metal Into Dielectric Due to Illumination of Au-InSb Oxide-InSb Structures"

Kratkiye soobshch. po fiz. (Brief Communications on Physics), 1971, No 4, pp 40-47 (from RZh-Fizika, No 10, Oct 71, Abstract No 10E791 by V. B. S.)

Translation: An investigation was made of illumination-induced electron injection from a semiconductor (and metal) into a dielectric, as well as intrinsic and extrinsic photoconductivity of the dielectric in Au-InSb oxide-InSb structures. The authors consider the processes of charge exchange of traps localized in the dielectric under the action of the illumination of MDP [metal-dielectric-semiconductor (?)] structures by IR and visible radiation.

1/1

USSR UDC 616.912-085.371-039.71-053.2-06

BRAGINSKAYA, V. P., Doctor of Medical Sciences and SOKOLOVA, A. F., Candidate of Medical Sciences, Department of Infectious Diseases, Institute of Pediatrics, Academy of Medical Sciences USSR, Moscow

"Complications Following Vaccination of Children Against Smallpox"

Moscow, Sovetskaya Meditsina, No 6, Jun 71, pp 121-125

Abstract: A study during 3 ½ yrs of 190 cases of complications following vaccination of children against smallpox indicated that the allergy component plays a considerable role in these complications. A pre-existing altered reactivity of the organism changes protective physiological reactions that accompany immunogenesis into pathological reactions, with the result that acute allergic processes are released. In the therapy of the complications, hyperimmune specific human anti-smallpox gamma-globulin with a 1:4000 titer of virus-neutralizing antibodies and titrated gamma-globulin with an antibody titer of at least 1:2000 were effective. In some cases, particularly those in which skin lesions developed, administration of methisazone (a drug of the thiosemicarbasone type, which inhibits the action of viruses of the smallpox group) yielded good results. In acute complications involving the nervous

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USSR

BRAGINSKAYA, V. P., and SOKOLOVA, A. F., Sovetskaya Meditsina, No 6, Jun 71, pp 121-125

system, such as post-vaccination encephalitis, specific gamma-globulin, antibiotics, corticosteroids, and drugs with antihistamine activity were applied in combination with intensive measures to bring about dehydration and relieve spasms. Care shou.d be exercised to prevent complications when contraindications to vaccination such as an altered allergic reactivity are present or children older than 3 yrs are vaccinated, who are particularly susceptible to post-vaccination encephalitis. In such cases preliminary administration of vaccine inactivated by gamma-irradiation followed by administration of live vaccine was found to be advantageous.

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USSR UDC 616.912-085.371-039.71-053.2-06

BRAGINSKAYA, V. P., Doctor of Medical Sciences and SOKOLOVA, A. F., Candidate of Medical Sciences, Department of Infectious Diseases, Institute of Pediatrics, Academy of Medical Sciences USSR, Moscow

"Complications Following Vaccination of Children Against Smallpox"

Moscow, Sovetskaya Meditsina, No 6, Jun 71, pp 121-125

Abstract: A study during 3 ½ yrs of 190 cases of complications following vaccination of children against smallpox indicated that the allergy component plays a considerable role in these complications. A pre-existing altered reactivity of the organism changes protective physiological reactions that accompany immunogenesis into pathological reactions, with the result that acute allergic processes are released. In the therapy of the complications, hyperimmune specific human anti-smallpox gamma-globulin with a 1:4000 titer of virus-neutralizing antibodies and titrated gamma-globulin with an antibody titer of at least 1:2000 were effective. In some cases, particularly those in which skin lesions developed, administration of methisazone (a drug of the thiosemicarbasone type, which inhibits the action of viruses of the smallpox group) yielded good results. In acute complications involving the nervous

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120001-0"

USSR

BRAGINSKAYA, V. P., and SOKOLOVA, A. F., Sovetskaya Meditsina, No 6, Jun 71, pp 121-125

system, such as post-vaccination encephalitis, specific gamma-globulin, antibiotics, corticosteroids, and drugs with antihistamine activity were applied in combination with intensive measures to bring about dehydration and relieve spasms. Care shou.d be exercised to prevent complications when contraindications to vaccination such as an altered allergic reactivity are present or children older than 3 yrs are vaccinated, who are particularly susceptible to post-vaccination encephalitis. In such cases preliminary administration of vaccine inactivated by gamma-irradiation followed by administration of live vaccine was found to be advantageous.

2/2

USSR UDC 534.322.3+534.83

BALITSKIY, F. YA., GENKIN, M. D., IVANOVA, M. A., SOKOLOVA, A. G.

"Problems of Modelling Acoustical Processes in Machines"

V sb. Dinamika i akustika mashin (Machine Dynamics and Acoustics -- Collection of Works), Moscow, "Nauka", 1971, pp 89-97 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh503)

Translation: The problem of the acoustical diagnostics of gear trains -- in this case, of establishing a one-to-one correspondence between the state parameters (the gap and load) and the parameters of the vibration-acoustical signal -- is considered. The various states of the planetary reducer were modeled by establishing the different degrees of side play in gear in the range 0-0.3 mm. The spectral components of the vibration, the correlation function, and the differential range of the distribution of instantaneous values were studied as a function of the gap and load. A characteristic increase in the dispersion of the distribution function with the increase of these parameters was observed and studied. Authors abstract.

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USSR

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ANSYUTINA, A. Ya., SOKOLOVA, A. I., SHVETSOV, P. N., ESKIN, G. I., SER'YEV, I. I., CHUKHROV, M. V., and AL'TMAN, M. B., Moscow

"The Effect of Ultrasonic Treatment on the Structure and Properties of Ingots of a Magnesium Alloy"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 70, pp 76-81

Abstract: Results are presented of an investigation of the effects of ultrasonic treatment on the crystallization process of a flat ingot (350 x [illegible] mm) of the MA2-1 alloy of the Mg-Al-Zn-Mn system. The method of introducing ultrasonic vibrations into the hole of the ingot is described and the macrostructure and microstructure of ingots cast with and without ultrasonic treatment are shown. Ultrasonic treatment of the MA2-1 alloy ingot during crystallization under continuous casting conditions makes it possible to comminute the structure, to decrease the H-content by a factor of 2, and to improve the mechanical properties by 10-20%. To make the ultrasonic treatment efficient, it is necessary to locate the emitter at 1/3 the depth of the hole and to maintain the relation of the sound emission surface to the molten metal surface [illegible].

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USSR

ANSYUTINA, A. Ye., et al, Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 70, pp 76-81

The development of cavitation in the molten metal is the determining factor in the crystallization mechanism of magnesium alloy ingots under the effect of ultrasound.

2/2

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--STRUCTURE OF XANTHALIN -U-

AUTHOR-(02)-SOKOLOVA, A.I., NIKONOV, G.K.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 14-19

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLECULAR STRUCTURE, HETEROCYCLIC OXYGEN COMPOUND, CHEMICAL SYNTHESIS, BENZENE DERIVATIVE, KETONE, HYDROGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0176 STEP NO--UR/0393/70/006/001/0014/0019

CIRC ACCESSION NO--AP0130935

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130935

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF XANTHALIN (I, R PRIME1 EQUALS R PRIME2 EQUALS COCME:CHME) (II) WAS CONFIRMED. II GAVE I (R PRIME1 EQUALS R PRIME2 EQUALS COCMEBRCHBRME), M. 50-2DEGREES. I WAS HYDROGENATED IN MEOH OVER PT O SUB2 TO TETRAHYDROXANTHALIN. ALK. METHANOLYSIS OF I YIELDED TRANS ISOMETHYLKHELLACTONE (I, R PRIME1 EQUALS H, R PRIME2 EQUALS ME) (TRANS-III), M. 136-38DEGREES (C SUB6 H SUB6); (ALPHA)SUBD PRIME20 MINUS 47.7DEGREES (C 0.7, ETOH); R SUBF 0.3 IN 5:4:1 N,HEXANE,C SUB6 H SUB6 MEOH ON HCONH SUB2 PAPER), ISOLATED FROM CIS TRANS III. I HYDROLYZED WITH 5PERCENT AQ. KOH IN DIOXANE GAVE ISKHELLACTONE (I, R PRIME1 EQUALS R PRIME2 EQUALS H), M. 213-15DEGREES (AQ. MEOH), R SUBF 0.0, AND ANGELIC ACID. I HYDROLYZED WITH ION ALC. H SUB2 SO SUB4 YIELDED 3,OXO,3,4,DIHYDROXANTHYLETIN AND ANHYDROMARMESIN.

FACILITY: VSES. NAUCH.-ISSLED. INST. LEK. RAST., BITTSA, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--RAPID CHEMICAL ANALYSIS OF COPPER TELLURIDES -U-

AUTHOR--YERMAKOVA, L.V., SOKOLOVA, A.L.

COUNTRY OF INFO--USSR

SOURCE--POROSH. MET. 1970, 10(1) 69-70

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPPER, CHEMICAL ANALYSIS, TELLURIDE, CHROMATE, TELLURIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0594 STEP NO--UR/0226/70/010/001/0069/0070

CIRC ACCESSION NO--AP0107191
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107191

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CU TELLURIDES ARE ANALYZED WITHOUT SEPN. OF CU FROM TE. CU IS DETD. COMPLEXIMETRICALLY WITH PLUS OR MINUS 0.02PERCENT ERROR, AND TE IS DETD. BY THE DICHROMATE METHOD WITH 0.05PERCENT ERROR. THE DETN. OF CU TAKES 1.5 HR, AND THAT OF TE TAKES 4 HR.

UNCLASSIFIED

USSR

UDC 595.771.576.858

SOKOLOVA, E. I., MIRZOYEVA, N. M., KULIYEVA, N. M., GROMASHEVSKIY, V. L., and CHERVONSKIY, V. I., Institute of Virology, Microbiology, and Hygiene imeni G. M. Musabekov, Ministry of Health Azerbaydzhan SSR, Baku, and Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Experimental Transmission of Sindbis Virus by Aedes aegypti L. Mosquitoes"

Leningrad, Parazitologiya, No 5, 1971, pp 405-407

Abstract: Aedes aegypti is susceptible to Sindbis virus, strain A3-574. Twenty-four to forty-eight hours after the mosquitoes were allowed to feed on mouse tails filled with a viral suspension or on suckling mice, the virus titer in the insects was quite high, 10^{-5}, and 2 days later it rose to 10^{-6}. On the 7th day it fell to 10^{-4} but rose on the 10th day to 10^{-5}, reaching a peak on the 16th day, 10^{-6}. The high titers persisted until the 26th day when they began to fall to 10^{-3} (on day 29). Three to five days after suckling mice were exposed to the infected mosquitoes, the animals developed paralysis of the hind legs and died.

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Acc. Nr.: AP0029431 Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 9-14

PRODUCTION OF A NEW HEPTAENIC NONAROMATIC ANTIBIOTIC TBILIMYCIN BY ACT. CHARTREUSIS VAR. TBILISUS

Yu. D. Shenin, E. N. Sokolova, Yu. Ye. Konev

Leningrad Institute for Antibiotics

A new variant designated as Act. chartreusis var. tbilisus, producing along with shartresin a new antifungal heptaenic antibiotic of the nonaromatic group is described. The new antibiotic is named as tbilimycin.

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REEL/FRAME 6

19681027

Acc. Nr: AP0044610 Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48, Nr 1, pp 96-102

CHANGES IN THE BILIRUBIN FRACTIONS IN ACUTE, CHRONIC HEPATITIS AND LIVER CIRRHOSIS (EBERLAINE'S TECHNIQUE)

G. M. Sokolova

Summary

The article sets forth the results of investigations of three bilirubin fractions (free, monoglucuronide and diglucuronide) in 194 patients (138 — with acute hepatitis, 8 — with toxic hepatitis, 47 — with chronic hepatitis and liver cirrhosis and 1 — with benign hyperbilirubinemia). During dynamic studies in acute hepatitis of diverse severity there was found a distinct regularity of cahnges in these fractions. At the peak of the icteric period there was seen an augmented level of all bilirubin fractions, but prevalently bound and mostly monoglucuronide. Subsequently there occurs a gradual decline of all the fractions. First of all the level of free bilirubin and monoglucuronied decreases. The dynamics of these two fractions is parallel and is of prognostic importance, since the earlier and more rapidly occurs this decline, the better is the prognosis. Reduction in the level of diglucuronide is slower. In patients with chronic hepatitis and liver cirrhosis in exacerbation the dynamics of bilirubin fractions is similar with that in acute hepatitis. Dynamic investigation of the referred to fractions enabled to a certain extent to carry out the differential diagnosis with obstructive jaundice, especially in malignant neoplasms.

111

REEL/FRAME 19771287

tch 02

USSR

UDC 621.382.002

YEFIMOV, YE.A., YERUSALIMCHIK, I.G., OSIPENKOVA, E.L., SOKOLOVA, G.P.

"Electrodeposition Of Copper In Order To Obtain Volume Leads Of Semiconductor Devices"

Elektron. tekhnika. Nauch.-tekhn.sb. Poluprovodn.pribory (Electronics Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 6(56), pp 89-92 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B488)

Translation: Preceding electrochemical deposition of copper volume leads on a sputtered 0.5-[?] thick Cu layer with masking by "385" photoresist, processing of the substrate in concentrated HCl during 15--20 sec at a temperature of 20 plus or minus 2° C is optimum. The electrolyte composition 200 g/l $CuSO_4$, 5 H_2O, 50 g/l H_2SO_4; 0.04 g/l $CS(NH_2)_2$; 0.04 g/l NaCl gives the greatest increase of the diameter of the local deposition of Cu. With a 20° C temperature of the solution, the current density is 0.1 a/cm^2, the height of the deposited columns of Cu not greater than 40 micrometer, the diameter of the column during the time of deposition (50 min) is increased by 5--10 micrometer. Cylindrical leads of proper form are obtained with horizontal immersion of the working wafer into the electrolyte. Correction of the electrolyte by addition of thiourea is necessary in the operating process. The assumed mechanism of chemical and electrochemical reactions occuring during electrodeposition of Cu is described. 1 ill. 4 ref. I.M.

1/1

USSR

UDC 669.293:541.943:669-977

SOKOLOVA, G. S., YUR'YEV, S. F.

"Interaction of Niobium with Gases at High Temperatures and Low Pressures"

Metallovedeniye -- V sb. (Physical Metallurgy -- collection of works), No 14, Leningrad, Sudostroyeniye Press, 1970, pp 204-222 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I781)

Translation: The results of studying the interaction of niobium with active gases are systematized. The equilibrium conditions in Nb-O, Nb-N, Nb-C, and Nb-H systems are investigated. Problems connected with the kinetics and mechanism of oxidation of niobium at high temperatures and low pressures are discussed. There are 9 illustrations, 3 tables, and a 116-entry bibliography.

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USSR

UDC 669.293.5.018.8.669.977

BORISOV, A. Ya., GUTS, A. V., SOKOLOVA, G. V.

"Absorption of Gases by Niobium Materials in the Stream of an Argon Plasma"

Metallovedeniye[Metal Science -- Collection of Works], No. 14, Leningrad, Sudostroyeniye Press, 1970, pp. 227-232. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I738 by the authors).

Translation: The influence of temperature, holding time, and content of impurities of active gases in the stream of an argon plasma on the corrosion resistance of Nb alloys is studied. It is established that in the stream of an argon plasma, intensive interaction of the metal with the active gases present in the Ar occurs. The composition of the reaction products formed on the surface of the metal as a result of its interaction with gases at 1300 and 1500° is determined. 4 figs; 2 tables; 7 biblio refs.

1/1

USSR

UDC: 8.74

SOKOLOVA, G. Ye.

"The 'Omega-6' Program"

Sb. tr. In-t gidrodinam. Sib. otd. AN SSSR (Collected Works. Institute of Hydrodynamics, Siberian Department of the Academy of Sciences of the USSR), 1971, vyp. 4, pp 21-31 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V663)

Translation: The "Omega-6" program realizes an algorithm for distribution of limited resources among objects of a second group on the BESM-6 computer with minimization of execution time.

The initial information for the "Omega-6" program is comprised of: a) PERT models of the second group; b) the availability function of the resources to be distributed. The program is designed for an overall number of jobs on all PERT models of up to 18 000, a maximum number of jobs in one PERT model of 6 000, and a maximum of 96 PERT models. All PERT models must have the same date for the initial event. The priority of PERT models is determined by their ordinal number.

1/1

USSR

UDC 616.935-078.734

KHODZHAYEV, SH. KH., and SOKOLOVA, I. A., Chair of Children's Diseases, Tashkent Institute for the Advanced Training of Physicians

"Evaluation of Opsonin-Phagocytic Reaction in the Diagnosis of Bacterial Dysentery"

Moscow, Sovetskaya Meditsina, No 11, 1971, pp 109-113

Abstract: Correct diagnosis of bacterial dysentery has been relatively unsuccessful (20-60% accuracy). Much work has recently been done on improving the sensitivity of bacteriological diagnosis, but a number of recognized obstacles confront this method: transience; low frequency of bacterial isolation in mild and latent forms in late hospitalization, and in early use of antibiotics; and the variability of the biochemical, serological, and morphological properties of Shigella. Now there is hope for supplementing the bacteriological methods with immunological tests, specifically, the passive hemagglutination reaction, the intacutaneous test with Tsuverkalov's dysenterin, and the opsoninphagocytic reaction (OPR). Attempts to use OPR in diagnosing bacterial dysentery have been made before, and opinion remains divided on its clinical value. A conclusive study of the value of the opsonin phagocytic test in differentiating dysentery from other intestinal disease has

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KHODZHAYEV, SH. KH., and SOKOLOVA, I. A., Sovetskaya Meditsina, No 11, 1971, pp 109-113

been made. The test with Sh. flexner and Sh. sonnei cultures) was used dynamically in 162 patients with acute dysentery (33 had the severe form; 57 the moderate form; 72;the mild form; and 40 were classed as carriers). After establishing the phagocytic index and phagocytic number in two control groups, one healthy, the other suffering from other acute intestinal diseases, readings were taken of the phagocytic index and phagocytic number for the 162 dysentery subjects at various intervals, The OPR in the dysentery patients peaked at 3-4 days. Comparison with the base values showed the phagocytic index up by a factor of 1.5-3. This difference was statistically significant for the phagocytic index. In the recovery phase, the phagocytic index rose even higher, to 3-5 times the control group value; and the phagocytic number went up by a factor of 1.5-3 A very high phagocytic index and number were registered in 34 patients with moderate or mild forms of the disease, but the majority of these patients had had a severe case in the past. Apparently, high phagocytic activity is connected with an immunological adjustment made by the organism in the previous illness. Follow-up studies on these 162 patients revealed that a high level of phagocytic activity was maintained inthe first

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USSR

KHODZHAYEV, SH. KH., and SOKOLOVA, I. A., Sovetskaya Meditsina, No 11, 1971, pp 109-113

four months of convalescence. Conventional bacteriological diagnosis was positive in only 113 subjects (69.7%). Analysis of other aspects of the OPR showed that initially weak phagocytic activity, building slowly, forecast a severe, protracted illness. Further, a high initial level of activity often promised a clinically favorable course. Thus, the OPR has a certain prognostic value. The purposes for which OPR is useful can be summarized as follows. OPR is a sensitive, supplementary tool in diagnosing bacterial dysentery, in distinguishing dysentery from other intestinal diseases, in identifying dysentery carriers, and in predicting how difficult the course of the disease is likely to be.

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USSR

UDC 533.9.004.12:546.217

KOVAL'SKAYA, G. A., SEVASM'YANENKO, V. G., SOKOLOVA, I. A., Novosibirsk

"Thermodynamic Properties of Air at 12,000-25,000°K and 0.1-100 atm Considering the Reduction in Ionization Potential"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 15-22.

Abstract: The composition of air is calculated for pressures of 0.1, 1, 10 and 100 atm and temperatures of 12,000-25,000°K, considering Coulomb interactions, resulting in a significant increase in the electron component in comparison with an earlier work. Physically justified analytic expressions are selected, describing the composition produced and thermodynamic properties with satisfactory accuracy. The approximations produced are convenient for the solution of applied problems, since they require no iterations.

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Radiation Chemistry

USSR

UDC 546.98'221.09:542.973.2:546.791.6

SOKOLOVA, I. D., SAVEL'YEVA, V. I., GROMOV, B. V., RYASHENTSEVA, M. A., and MINACHEV, Kh. M.

"Utilization of Palladium Sulfide as a Catalyst During the Reduction of the Uranyl Ion"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, Vyp 9, 1972, pp 1938-1941

Abstract: Paladium sulfide acts as a catalyst in the reduction of U(VI) to U(IV) by formaldehyde without using radiation. Approximately 75% of the U is reduced in a $SO_4^=$ solution, 50% in an NO_3^-, and 35% in a Cl^- soln. Addition of HF increases the yield to 100% and 90% for $SO_4^=$ and NO_3^-, respectively. The difference in yield is due to complexing of U(IV) by the anions; the more effectively free U(IV) is complexed, e.g. removed from solution, the further the reduction will proceed to completion. The reduction is strongly temperature-dependent. At about 60°C the yield jumps sharply from about 5% to about 75% then rapidly levels off. Unlike the metallic platinum and palladium catalysts, which rapidly lose their activity, the palladium sulfide surface does not become poisoned and may be used many times without regeneration.

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SOKOLOVA, I.I.

Public health

JPRS 54194
6 Oct 1971

USSR: 572.51-053.2:616-056.51-057.31

DISTINCTIVE FEATURES IN PHYSICAL DEVELOPMENT OF INFANTS WITH LARGE BIRTH WEIGHT (4,000 GRAMS OR MORE) DURING THEIR FIRST YEAR (ACCORDING TO DATA FROM CONTINUOUS OBSERVATION OF INFANTS IN MOSCOW, IN 1966-1968)

[Article by I. I. Sokolova, Scientific Research Institute of Social Hygiene and Public Health Organization imeni N.A. Semashko, Moscow; Moscow, Sovetskoye zdravookhraneniye, Russian, No 8, 1971, submitted 8 April 1971, pp 25-29]

The study of physical development of infants up to one year of age is of great theoretical and practical significance since it deals with the period of the most rapid growth.

In the last few years, Soviet and foreign authors have observed an increase in number of infants with large birth weight. For example, in 1965, 14.4 percent of the infants born in Perm' weighed 4,000 grams or more at birth (L.Ya. Oyerr), this applied to 10.8 percent of the children born in Moscow in 1966 (A.P. Matveyeva), and 12.8 percent of the children born in (I.I. Sokolova), and 13.5 percent of the children born in 1967. In this city (A. Zeltzer). The literature deals mainly with the effect of large birth weight on mortality and morbidity levels for infants up to one week old (R.A. Kogan; A.P. Matveyeva, and others). However, no study has been made of the effect of the physical condition of neonates on age-related dynamics of the development at different periods within the first year of life.

In view of these circumstances, it was our purpose to determine the level of development of infants up to one year of age who presented a large birth weight (4,000 grams or more) in the age-related dynamic aspects, to determine the distinctive developmental features at which birth weight doubled, "cross" measurements of the chest and head, ratio between weight gain and growth) of infants who presented a large birth weight.

For this purpose, 616 infants born in 1966-1967, whose birth weight was 4,000 grams or more, in seven pediatric polyclinics of Moscow, were under continuous observation in 1966-1968. Preventive examination of this group of children included 9,984 anthropometric readings, and the four chief indices of physical development were measured (height, weight, chest and head circumference) on infants who were 3, 6, 9, and 12 months old, and only the height and weight at all other ages, in months.

SOKOLOVA, I. I.

SO: JPRS 53402
12 Jun 71

UDC: 572.51.087.1-053.3

INDIVIDUAL COMPLEX EVALUATION OF PHYSICAL DEVELOPMENT OF INFANTS UNDER 12 MONTHS OLD AS RELATED TO WEIGHT AT BIRTH

[Article by I.I. Sokolova, All-Union Scientific Research Institute of Social Hygiene and Organization of Public Health imeni N.A. Semashko, Moscow; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 5, 1971, submitted 10 December 1970, pp 32-34]

Physical development indices are among the most important criteria for evaluating the health of the child population. They are particularly important with reference to infants in the first year of life, at a time of factor growth and development.

The method of dual correlation and regression scales (S.M. Leviant, 1954; A.B. Stavitskaya and D.I. Aron) has been adopted in our country to check the physical development of infants. With this method, children that are 15 days from the mean age are categorized in each month of their first year. The rating tables (standards) prepared by this method of the physical development of infants are very convenient for medical supervision, and they have become popular in pediatric practice (S.M. Leviant, 1960; R.F. Kogan; F.S. Denkevich; A.A. Perelygina; V.I. Shlykov; R.A. Malysheva; V.G. Gerlin, and others).

Until now, the standards for infants under 12 months old and in subsequent age groups were based on the mean, and did not take into consideration the influence of birth weight on the dynamics and level of physical development of children. However, with today's high average level of physical development of children, in particular of infants under 12 months old in Moscow (R.S. Kogan and N.F. Pod"yacheva, and our data for 1966-1968), the rating tables which are scales for the average child can no longer serve as the proper criterion for individual evaluation of physical development.

It is not by chance that the question is being raised in the last few years of revising many of the indices of development of children and adolescents, in connection with the acceleration process (V.G. Vlastovskiy; M.Ya. Studenikin and N.S. Mirzoyan, and others).

USSR

UDC 615.838.7.015.2:615.835.3.].015.4:616.152.21

SOKOLOVA, I. I., Odessa Military Sanatorium

"Combined Use of Mud and Oxygen and Therapy in the Treatment of Patients Suffering From Various Diseases With Hypoxia"

Moscow, Voprosy Kurortologii, Fizioterapii i Lechebnoy Fizicheskoy Kultury, No 2, Mar/Apr 70, pp 166-167

Abstract: Mud therapy has been used in various chronic debilitating conditions, but accounts of its use in cardiovascular and respiratory disturbances are inadequate. A study was therefore made of 27 male and 20 female patients ranging in age from 38 to 52 years who were suffering from postinfectious arthritis, arteriosclerosis, hypertension, and cardiovascular and other disturbances in all of whom hypoxia was present to some degree. Both hypoxia and saturation of the blood with oxygen administered by inhalation in measured quantities were determined by means of an oxyhemometer attached to the lobe of the ear. When saturation of the arterial blood with oxygen had reached the normal level (94-96%), mud treatment was applied. A reduction in the oxygen saturation from 2 to 6% was immediately registered. For those patients who complained of weakness, perspiration, difficulty in breathing, and sharp pains in the precordial region, these symptoms disappeared after administration of oxygen and the patients were comfortable. It is noted, however, that the patients receiving mud treatment had

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USSR

SOKOLOVA, I. I., Voprosy Kurortologii, Fizioterapii i Lechebnoy Fizicheskoy Kultury, No 2, Mar/Apr 70, pp 166-167

inhaled rather large amounts of oxygen before the oxyhemometer registered a rise in the oxygen saturation of the arterial blood. The use of combined mud and oxygen therapy is considered beneficial for patients suffering from various chronic diseases in which hypoxia is present.

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6022 - END -
CSO: 1840-W

SOKOLOVA, I. I.

UDC: 572.51.087.1-053.2:681.3

COMPUTER METHOD OF PROCESSING DATA ON PHYSICAL DEVELOPMENT OF CHILDREN AND ADOLESCENTS

[Article by I.I. Sokolova, V.H. Timonin, A.M. Levin, All-Union Scientific Research Institute of Social Hygiene and Public Health Organization imeni N.A. Semashko, Moscow; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 10, 1972, submitted 18 April 1972, pp 25-29]

Physical development has always been one of the important criteria for evaluating the health of the child population. Yet much time has to be spent on gathering the necessary information, developing the main parameters, determining the rate of development, comparing mean values according to criterion t, and making up "standards," which are rating tables of physical development by the method of correlation and regression scales.

One of the present authors (I.I. Sokolova) had the task of investigating the present level of physical development of infants up to 12 months old in Moscow, and the effect of the initial level of term neonates on age-related dynamics of this index, as well as to prepare "standards" for individual evaluation of physical development of infants up to 12 months of age as related to initial level at birth. For this purpose, 1,807 infants born in 1966-1967 were followed up in seven pediatric polyclinics of Moscow (central and suburban) in 1966, 1967, and 1968.

Birth weight was 4,000 grams or more in 616 of these 1,807 infants, it ranged from 3,000 to 4,000 in 634, from 2,500 to 3,000 grams in 577, and 2,500 grams or less for the remaining infants.

All measurements were made by well-trained medical personnel in accordance with the routine standardized method of V.V. Bunak. A total of 41,132 anthropometric measurements were made during preventive checkups on the selected group of infants.

The data gathered were grouped according to sex and age. In each age and sex group were included infants within a range of ±15 days of the mean age. Thus, in each of the four sets studied (birth weight) there were 26 age groups (13 boys and 13 girls, including neonates).

JPRS 57493
13 Nov 72

USSR

UDC 53.082.78+577.3:539.12.04

SOKOLOVA, I. K.

Khimicheskiye Metody Dozimetrii v Radiobiologii (Chemical Methods of Dosimetry in Radiobiology) edited by I. B. Keirim-Markus, Moscow, Atomizdat, 1972, 120 pp

Translation: Annotation: The purpose of the book is to familiarize readers with the possibilities of chemical dosimetry in radiobiology. The author has collected, classified, and analyzed published data on the different kinds of chemical dosimeters. She also presents the results of her own experiments involving the use of some chemical dosimeters.

There are 26 tables, 32 illustrations, and a bibliography containing 215 titles.

Contents

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SOKOLOVA, I. K., Khimicheskiye Metody Dozimetrii v Radiobiologii, Moscow, Atomizdat, 1972, 120 pp

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SOKOLOVA, I. K., Khimicheskiye Metody Dozimetrii v Radiobiologii, Moscow, Atomizdat, 1972, 120 pp

USSR

SOKOLOVA, I. K., Khimicheskiye Metody Dozimetrii v Radiobiologii, Moscow, Atomizdat, 1972, 120 pp

Bibliography

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USSR

UDC 629.78.015:533.6.011.5

GRODZOVSKIY, G. I., LASHKOV, YU. A., SVISHCHEV, G. P., and SOKOLOVA, I. P.

"Investigation of the Effect of Perforated Nozzles With Longitudinal Slots on the Resistance of a Body Rotating at Supersonic Velocities"

Uch. Zap. Tsentr. Aerogidrodinam In-ta (Scientific Writings of the Central Aerohydrodynamics Institute), Vol 3, No 2, 1972, pp 21-27 (from Referativnyy Zhurnal--Raketostroyeniye, No 8, 1972, Abstract No 8.41.92)

Abstract: Results of an investigation on the effect of rear, thin-wall perforated nozzles with a different number of longitudinal slots on the bottom resistance of a body rotating at Mach numbers of 1.75, 2.25 and 4.0 have been presented. It was shown that the use of thin-wall nozzles with longitudinal slot perforation gives a noted decrease of the total resistance of a rotating body at Mach 1.75-2.25. The change of total resistance of a rotating body agrees well in this instance with increased bottom pressure. Author's view, 9 illustrations, 5 bibliographical references.

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USSR

SKOLOV, I.V.

UDC 621.385.64

"Concerning The Conditions For Stable Operation Of A Magnetron With Power Supply From An A-C Voltage Source"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 7, pp 32-37 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11A122)

Translation: Requirements are formulated for the resonator system of a magnetron intended for operation on a-c. These requirements involve a specific choice of the resonant frequencies and voltages of excitation nearest to the π-mode of the inoperative oscillation modes during which synchronism is not allowed of the velocity of the electrons and the phase velocity, minus the first spatial harmonic of the field. Using as an example a magnetron with a resonant system of the sector type, the possibility is shown of satisfaction of the requirements formulated. Author's summary.

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USSR UDC: 621.373.42.029.64:621.385.64

MASHIN, B. G., SOKOLOV, I. V., VODYANITSKIY, V. I., ZHENOVENKOV, S. I.

"A Superhigh-Frequency Magnetron Oscillator"

USSR Author's Certificate No 270002, filed 1 Aug 67, published 13 Aug 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D353 P)

Translation: To improve the reliability of a magnetron microwave oscillator (see RZh-Radiotekhnika, 1968, 4D366), it is proposed that a full-wave rectifier consisting of two diodes and the secondary of an auxiliary transformer be connected in series with the windings of the electromagnet. At the instant of actuation of the oscillator, the primary winding of the auxiliary transformer is completely connected to the power supply terminals, but under operating conditions, a smaller part of it is connected across the line by means of a switch through the primary of the power transformer. One illustration. V. P.

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1/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ROENTGENOKYMOGRAPHIC STUDY OF CARDIAC FUNCTION IN CHILDREN AFFECTED WITH RHEUMATIC FEVER DURING CIRCULATORY INSUFFICIENCY -U-
AUTHOR-(02)-SOKOLOVA, K.F., NARINA, E.P.

COUNTRY OF INFO--USSR

SOURCE--KARDIOLOGIYA 10(1): 78-82. 1970

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEDIATRICS, HEART DISEASE, RADIOGRAPHY, BLOOD CIRCULATION, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0551 STEP NO--UR/0495/70/010/001/0078/0082

CIRC ACCESSION NO--AP0131174
UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131174

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ACUTE STAGE OF RHEUMATIC FEVER THERE ARE NOTICABLE CHANGES IN THE HEART FUNCTION. IN CHILDREN WITH CIRCULATORY INSUFFICIENCY OF THE I AND II-A STAGES DURING ABATEMENT OF THE RHEUMATIC PROCESS THERE WAS IMPROVEMENT OR COMPLETE RESTORATION OF THE FUNCTIONAL STATE OF THE HEART. IN CIRCULATORY INSUFFICIENCY OF THE II-B AND III STAGES DURING THE ABATEMENT OF RHEUMATIC FEVER IN MOST CHILDREN THE POSITIVE DYNAMICS WERE INSIGNIFICANT. FACILITY: MOSCOW RES. INST. PEDIAT. CHILD SURG., MIN. HEALTH RSFSR, MOSCOW, USSR.

UNCLASSIFIED

UDC 613.2:632.95

USSR

BELOVA, R. S., and SOKOLOVA, L. A., Candidates of Biological Sciences, Saratov Scientific Research Institute of Rural Hygiene

"Toxicological and Hygienic Evaluation of the Herbicide 2.4 D_{α} Butyric Acid From the Point of View of Nutrition Hygiene"

Moscow, Gigiyena i Sanitariya, No 11, Nov 71, pp 36-39

Abstract: In an effort to determine the toxicity of 2.4 D_{α} butyric acid (2.4 DM), a herbicide, experiments were conducted with rats of both sexes to study its cumulative properties and to determine the threshold dosage for rats. The cumulative properties were studied in a 3-month experiment, using doses of 208 and 104 mg/kg (1/10 and 1/20 LD_{50}). Repeated doses rarely resulted in death; some animals survived 4 LD_{50}, but presented numerous functional disorders in the central nervous system, pituitary-adrenal system, liver, and kidneys, and lowered reserves of ascorbic acid and SH groups. The cumulative activity of 2.4 DM was considered low. The threshold dosage was determined in a 14-month experiment, using doses ranging from 20.8 to 3.4 mg/kg (1/100 to 1/600 LD_{50}). The weight of male rats was affected by both large and small doses; no change was observed in females. The cumulative threshold index showed that the central nervous system quickly adapted to all doses. Some liver and

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USSR

SOKOLOVA, L. I., VOROB'YEVA, L. I. and NOVIKOVA, G. B.

"Library of Standard Routines for Processing of Files of Economic Information"

Tr. NII Upravl. Mashin i Sistem [Works of Scientific Research Institute of Control Machines and Systems], 1973, No 7, pp 141-145 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V664)

Translation: One important element in the software system of an ACS is the set of standard procedures for machine processing of information in all stages of performance of the task. This article describes a library of procedures for processing of files of economic information. This library is written for the ASVT computer and has been tested in a number of typical control-system problems. The experience in application of similar sets of programs shows the sufficient completeness of the set of standard procedures for solution of common ACS problems, as well as the effectiveness of automation of programming using standard program libraries. Author's view

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USSR

OSADCHI, N. I. and SOKOLOVA, L. I.

"Methods of Control of a Library of Standard Procedures"

Tr. NII Upravl. Mashin i Sistem [Works of Scientific Research Institute of Control Machines and Systems], 1973, No 7, pp 116-120 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V663)

Translation: Several versions of construction of an automatic programming system are studied. The system is a component part of a programming system designed for the economic problems of ACS. In describing the structural plans, the convenience of the input language, methods of connection of standard programs to the main program and effectiveness of utilization of the resources of the computer in various versions are estimated. As a set of standard programs, procedures for processing of files as well as programs for description, creation and servicing of data banks are suggested. Authors' view

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UDC 681.3.06:51

USSR

DUSHKIN, B. M., OSADCHIY, N. I., SOKOLOVA, L. I.

"Principles of Construction of Programming Systems for the Class of Problems Encountered in Automatic Industrial Enterprise Control System"

Tr. NII Upravl. Mashin i Sistem [Works of Scientific Research Institute for Control Machines and Systems], No 5, 1971, pp 111-115, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V787).

NO ABSTRACT.

USSR UDC:538.56:519.25

SOKOLOVA, L. L., KRIVOSHEYEV, V. I.

"Optimal Radio Reception of AM Signal Against Noise Background"

Uch. Zap. Gor'kovsk. Un-t, Ser. Radiofiz [Scientific Writings of Gor'kiy University, Radio Physics Series], No. 105, 1970, pp. 43-49 (Translated from Referativnyy Zhurnal Fizika, No. 11, 1970, Abstract No. 11 Zh108 by I. Troitskiy)

Abstract: Optimal radio reception of a signal is studied for the case in which the output signal consists of an additive mixture of an AM signal and AM noise. It is assumed in this case that the AM both of the useful signal and of the noise is performed by speech signals which are stable random processes with known energy spectra. Based on experimental data on the characteristics of the spectral density of the power of Russian speech, a model of AM speech signal and AM noise is suggested. The structure of a linear receiver with variable parameters performing optimal reception in the sense of the minimum mean square error of input

USSR UDC:538.56:519.25

SOKOLOVA, L. L., KRIVOSHEYEV, V. I., Uch. Zap. Gor'kovsk. Un-t, Ser. Radiofiz [Scientific Writings of Gor'kiy University, Radio Physics Series], No. 105, 1970, pp. 43-49 (Translated from Referativnyy Zhurnal Fizika, No. 11, 1970, Abstract No. 11 Zh108 by I. Troitskiy)

and useful signals is determined for this model of the input radio signal.

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USSR

UDC 621.391.1:519.2:621.372.54

SOKOLOVA, L. L., KRIVOSHEYEV, V. I.

"Optimal Radio Reception of AM Signals Against a Background of AM Noise"

Uch. zap. Gorkovsk. un-t (Scientific Notes of Gorkiy University), 1970, vyp. 105, pp 43-49 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A28)

Translation: This article contains an investigation of the problem of separating useful AM signals from an additive mixture with AM noise not distinguished from it with respect to structural characteristics. It is proposed that the modulating signals are voice signals of the stationary random process type with known energy spectra. A model of the system which forms the useful message is constructed in the form of a linear dynamic 4th-order system excited by white noise. The noise model is constructed in the form of a linear dynamic second-order system with variable parameters. The structure of the linear receiver with varinble parameters evaluating the useful message with minimum mean square error is defined. There are three illustrations and a four-entry bibliography.

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USSR UDC: 621.385.632.032(088.8)

ROVENSKIY, G. V., SOKOLOVA, L. N.

"A Coaxial-Spiral Adapter for Traveling-Wave Tubes"

USSR Author's Certificate No 273881, filed 14 Aug 68, published 8 Dec 70 (from RZh-Elektronika i yeye Primeneniye, No 6, Jun 71, Abstract No 6A173P)

Translation: This Author's Certificate introduces a coaxial-spiral adapter for traveling-wave tubes. The adapter is made in the form of a flat radial spiral such as an Archimedes spiral located in a plane perpendicular to the axis of the tube and enclosed in a metal shield formed by side plates placed to both sides above the plane of the spiral and connected along the edges by a ring-shaped strip. As a distinguishing feature of the patent, matching properties are improved by separating the inner surface of the ring-shaped strip from the end turn of the radial spiral, which has the maximum diameter, by a distance equal to the pitch of the spiral.

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1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--METHODS OF PURIFYING ACIDIC WASTE WATERS AND THE CORROSION OF METALS DURING RECYCLING -U-

AUTHOR-(03)-KATS, YU.A., SOKOLOVA, L.P., BAZHANOVA, S.N.

COUNTRY OF INFO--USSR

SOURCE--TR., GOS. NAUCH.-ISSLED. PROEKT. INST. SPLAVOV OBRAB. TSVET. METAL 1970, NO. 31, 40-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ION EXCHANGE RESIN, COPPER, COPPER ALLOY, ZINC, CORROSION RATE, WATER PURIFICATION, INDUSTRIAL WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0585 STEP NO--UR/0000/70/000/031/0040/0043

CIRC ACCESSION NO--AT0134350

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 021

CIRC ACCESSION NO--AT0134350

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACIDIC WASTE WATERS FROM METAL PICKLING CAN BE PURIFIED BY USING RESIN ION EXCHANGERS. THE OPTIMUM RATE OF WATER FLOW THROUGH AN EXCHANGER IS 8.6 M PRIME3-HR. PURIFIED WATERS HAVE PH 6.5-8.0 AND LESS CORROSIVE POWER, WITH REGARD TO CU AND ITS ALLOYS, THAN NORMAL TAP WATER (PH 7.0). CATION AND ANION EXCHANGERS ARE REGENERATED IN 10PERCENT H SUB2 SO SUB4 AND 10PERCENT NAOH SOLNS., RESP. AND THE CONCD. REGENERATIVE SOLNS. ARE PROCESSED FOR THE RECOVERY OF CU, ZN, AND NA SUB2 SO SUB4.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--DEPENDENCE OF THERMOCONDUCTIVITY OF TERRIGENE ROCKS OF THE WEST SIBERIAN LOWLAND ON OTHER PHYSICAL PARAMETERS -U-

AUTHOR--MOISEYEVKO, U.I., DOROGINITSKAYA, L.M., LEONTYEV, YE.I., SOKOLOVA, L.S.

COUNTRY OF INFO--USSR

S

SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 2, PP 106-110

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

TOPIC TAGS--ROCK, SANDSTONE, POROSITY, ELASTIC WAVE, HEAT CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/1232 STEP NO--UR/0210/70/000/002/0106/0110

CIRC ACCESSION NO--AP0103120

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103120

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF THE STUDY OF SANDSTONES, ALEVROLITES AND ARGYLLITES THERMOCONDUCTIVITY DEPENDENCE ON SPECIFIC GRAVITY, POROSITY, DENSITY, ELASTIC WAVES VELOCITY AND SPECIFIES ELECTRIC RESISTANCE ARE LISTED IN THE PAPER. THE MEASUREMENTS OF PHYSICAL PARAMETERS WERE MADE ON THE DRY SAMPLES AND THOSE SATURATED IN WATER. THE RESULTS OF OBTAINED DEPENDENCE OF THERMOCONDUCTIVITY ON ENUMERATED PARAMETERS ARE PRESENTED AS EMPIRICAL EQUATIONS AND DIAGRAMS.

UNCLASSIFIED

USSR

UDC: 533.9.07

GUSEV, V. K., MALYSHEV, G. M., RAZDOBARIN, G. T., SOKOLOVA, L. V.

"Measuring Electron Temperature and Concentration by the Scattering of Laser Radiation in a Plasma on the Tuman-2 Machine"

Leningrad, Zhurnal tekhnicheskoy fiziki, No 2, 1972, pp 340-343

Abstract: An experimental method for diagnosing a plasma through laser radiation scattering is described. The Tuman-2 used by the authors in the experiments is an axially symmetrical toroidal magnetic trap with longitudinal current. The toroid has a large diameter of 80 cm and a small diameter of 20 cm. Maximum diameter of the plasma cord in the ohmic heating period is 16 cm; the cord is maintained in equilibrium by a programmed transverse magnetic field and by the interaction of the longitudinal current and the housing. The heating of the plasma under the action of the longitudinal current, the uhf field, and the adiabatic compression by the increasing longitudinal magnetic field, is investigated. Measurements of the electron temperature and concentrations were made under the conditions in which the plasma was heated by the discharge current. The authors express their gratitude to V. Ye. Golant, M. G. Kaganskiy, Yu. E. Komach, and Ye. N. Kozlovskiy for their assistance. They are with the Physico-technical Institute

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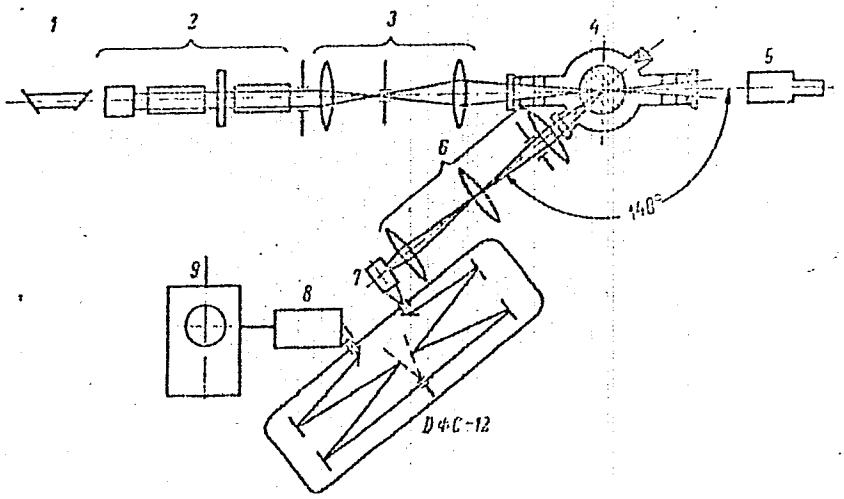

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